



Si1405BDH vs. Si1405DL

Description: P-Channel 1.8-V (G-S) MOSFET
Package: SC70-6
Pin Out: Identical

Part Number Replacements

Si1405BDH-T1-E3 Replaces Si1405DL-T1-E3
 Si1405BDH-T1-E3 Replaces Si1405DL-T1

ABSOLUTE MAXIMUM RATINGS ($T_A = 25\text{ }^\circ\text{C}$, unless otherwise noted)					
Parameter	Symbol	Si1405BDH	Si1405DL	Unit	
Drain-Source Voltage	V_{DS}	- 8	- 8	V	
Gate-Source Voltage	V_{GS}	± 8	± 8		
Continuous Drain Current	$T_A = 25\text{ }^\circ\text{C}$	I_D	- 1.6	- 1.8	A
	$T_A = 85\text{ }^\circ\text{C}^a$		- 1.2	- 1.5	
Pulsed Drain Current	I_{DM}	- 8	- 5		
Continuous Source Current (MOSFET Diode Conduction)	I_S	- 1.47	- 0.8		
Power Dissipation	$T_A = 25\text{ }^\circ\text{C}$	P_D	1.47	0.625	W
	$T_A = 85\text{ }^\circ\text{C}^a$		0.95	0.400	
Operating Junction and Storage Temperature Range	T_J and T_{stg}	- 55 to 150	- 55 to 150	$^\circ\text{C}$	
Maximum Junction-to-Ambient	R_{thJA}	85	200	$^\circ\text{C/W}$	

SPECIFICATIONS ($T_J = 25\text{ }^\circ\text{C}$, unless otherwise noted)								
Parameter	Symbol	Si1405BDH			Si1405DL			Unit
		Min	Typ	Max	Min	Typ	Max	
Static								
Gate-Threshold Voltage	$V_{GS(th)}$	- 0.45		- 0.95	- 0.45		NS ^b	V
Gate-Body Leakage	I_{GSS}			± 100			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}			- 1			- 1	μA
On-State Drain Current	$I_{D(on)}$	- 8			- 2			A
Drain-Source On-Resistance	$V_{GS} = - 4.5\text{ V}$	$r_{DS(on)}$	0.091	0.112	0.100	0.125	Ω	
	$V_{GS} = - 2.5\text{ V}$		0.132	0.160	0.130	0.160		
	$V_{GS} = - 1.8\text{ V}$		0.171	0.205	0.170	0.210		
Forward Transconductance	g_{fs}		4.8		3.8		S	
Diode Forward Voltage	V_{SD}		- 0.8	- 1.2	- 0.76	- 1.1	V	
Dynamic								
Total Gate Charge	Q_g		3.67	5.5	5.5	7.0	nC	
Gate-Source Charge	Q_{gs}		0.61		0.9			
Gate-Drain Charge	Q_{gd}		0.98		0.9			
Gate Resistance	R_g		6.3		NS ^b			Ω

Notes:

- a. T_A is $70\text{ }^\circ\text{C}$ for Si1405BDH.
- b. NS denotes not specified in original datasheet.

Specification comparisons are supplied as a courtesy to compare two devices and do not constitute a commercial product datasheet or any guarantee of identical performance. Designers should refer to the appropriate datasheets of the same number for guaranteed specification limits.